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Education	<p>COLUMBIA UNIVERSITY Dept. of Earth and Environmental Sciences, New York, NY Ph.D. in Climate Dynamics, <i>with distinction</i> (February 2001). Primary Advisors: Mark A. Cane, Stephen E. Zebiak, and Yochanan Kushnir. Thesis: The Intertropical Convergence Zone in Tropical Atlantic Climate Variability.</p> <p>CORNELL UNIVERSITY Dept. of Physics, Ithaca, NY M.S. in Physics (May 1996). Primary Advisors: Kerry H. Cook and Geoffrey V. Chester. Thesis: Development of a large-scale dynamical model of the atmosphere and application to the study of the response to surface heating at low latitudes.</p> <p>UNIV. OF THE WITWATERSRAND Dept. of Physics, Johannesburg, South Africa B.Sc. (Hons) in Physics, <i>first class</i> (May 1992), and Mathematics, <i>first class</i> (May 1993). Primary Advisors: W. D. Heiss and J. D. Comins. Honours project: Random perturbation of systematic degeneracies and quantum chaos.</p>
Research and Teaching	<p>UNIVERSITY OF CALIFORNIA Berkeley, CA Associate Professor (Jul 2008 – present) Assistant Professor (Jan 2003 – Jun 2008) Dept. of Geography and Center for Atmospheric Sciences. Teach undergraduate/graduate courses on climate sciences and related topics; research in climate dynamics.</p> <p>UNIVERSITY OF WASHINGTON (Feb 2001 – Dec 2002) Seattle, WA UCAR Postdoctoral Fellow, Joint Institute for the Study of the Atmosphere and Ocean (host: David S. Battisti). Research on mechanisms of tropical ENSO teleconnections, ocean-atmosphere interactions, and tropical climate of the Last Glacial Maximum.</p> <p>COLUMBIA UNIVERSITY (Jul 1996 – Dec 2000) Palisades, NY Graduate Research Assistant, Climate group, Lamont-Doherty Earth Observatory. Analysis and modeling of tropical ocean surface winds; and of the role of the Atlantic Intertropical Convergence Zone in Tropical Atlantic climate variability.</p> <p>CORNELL UNIVERSITY (Jun 1994 – Dec 1995) Ithaca, NY Graduate Research Assistant, Cook research group, Dept. of Soil, Crop and Atmospheric Sciences. Modeling the response of the atmosphere to surface heating.</p> <p>UNIV. OF THE WITWATERSRAND (Jan 1990 – Dec 1990) Johannesburg, South Africa Student Research Assistant, Comins Lab., Dept. of Physics. Developed interferometry technique for measuring refractive index of crystals at high temperatures.</p>
Research Interests	Tropical rainfall variability and change, ocean-atmosphere interactions, paleoclimate dynamics, applications of climate studies to society
Courses taught	<p>Ongoing graduate seminar in climatology (Geog 257). Past topics: Paleoclimate modeling (Spring 2003); Interannual variability (Fall 2004); Atmospheric Dynamics (2007)</p> <p>Graduate Seminar in Spatiotemporal Data Analysis in the Climate Sciences (Geog 249)</p> <p>Upper division undergraduate course in Climate Dynamics (Geog 142)</p> <p>Upper division undergraduate course in Atmospheric Physics and Dynamics (Geog C139)</p> <p>Lower division undergraduate course in Earth System Science (Geog 40)</p> <p>Lower division “Discovery Course” on Global Warming (L&S 70B)</p>

- Awards & Distinctions**
- Kavli Frontiers of Science Fellow (2006)
 - Comer Mentor Award (July 2004 – June 2007) and extension (2007-2008)
 - NOAA/UCAR Climate and Global Change Postdoctoral Fellowship (2001-2002)
 - Ph.D. awarded with distinction (2001)
 - Heezen Memorial Prize (for outstanding achievement in academics and graduate research, Dept. of Earth and Environmental Science, Columbia University, 2000).
 - Josephine De Kármán Fellowship (2000)
 - NASA Earth Systems Science Fellowship (1997-2000).
 - University Council Postgraduate Scholarship (1992-1994).
 - Most distinguished B.Sc. graduate in the Faculty of Science, U. Witwatersrand (1991)
- Service**
- Associate Editor**, *Journal of Climate* (2007-)
 - Co-editor** (with Andreas Schmittner and Sidney Hemming) of an AGU monograph “Ocean circulation: Mechanisms and Impacts”
 - UC Berkeley representative** to the University Corporation for Atmospheric Research, 2004-present
 - Organizer**, UCB Geography colloquium series (Fall 2005-present)
 - Organizer**, UCB Berkeley Atmospheric Sciences Center seminar series (Fall 2008-present)
 - Member**, Changelings group (abrupt climate change study group)
 - Convener** (with Michela Biasutti, Alessandra Giannini, Isaac Held, and Adam Sobel) of a workshop on Sahel Climate Change, Columbia University, March 2007.
 - Convener** (with Anthony Broccoli), AGU Spring 2006 session, “Controls of the Intertropical Convergence Zone in Past Climates: Observations and Models”
 - Convener** (with Rowan Sutton and Carrie Morrill), AGU Fall 2005 session, “Climate Impacts of Changes to the Thermohaline Circulation”
 - Convener** (with Alessandra Giannini and Benjamin Lintner), AGU Fall 2004 session A10, “The Tropical ENSO Teleconnection: Observations and Mechanisms”
 - Convener** (with Carrie Morrill), AGU Fall 2003 session PP41, “Rapid Climate Change during the Holocene and Last Glacial”
 - Organizing committee**, US CLIVAR Atlantic meeting, NOAA Climate Diagnostics Center, Boulder CO, June 12-14, 2001.
 - Organizer**, Physical Oceanography/Geochemistry seminar series, L-DEO, 1998.
- Outreach**
- National Academy of Sciences, public symposium “Human Society and Climate Change”, April 30, 2007
 - Cal Day 4/22/2006 public talk: “What’s up with global climate change?”
 - Orlove, Chiang and Cane 2002 (in *American Scientist*) won the 2003 Bronze award for Magazines Feature Article, 25,001 to 100,000, awarded by the Society of National Association Publications.
- Invited talks**
- AGU session on “Transitioning out of the Mid-Holocene Climate: An Evaluation of Land-Ocean Proxy Records and Model Simulations II”, Fall 2008: “Pacific Climate Change and ENSO activity in the mid-Holocene”
 - AGU session on “Tracking Abrupt Climate Variability During the Last Glacial Cycle in the Indo-Pacific II”, Fall 2008: “Interhemispheric thermal gradient and the tropical Pacific climate”
 - University of Minnesota Department of Geology and Geophysics Departmental Seminar, May 8, 2008: “Interhemispheric gradients and tropical climate change”.
 - University of Minnesota Department of Geology and Geophysics Paleoclimate seminar, May 8, 2008: “Pacific climate change and ENSO activity in the mid-Holocene”
 - Berkeley Atmospheric Sciences Seminar: ‘Pacific climate change and ENSO activity in

the mid-Holocene", UC Berkeley, 1 April 2008.

2nd International AMMA conference., Karlsruhe, Germany, Nov 2007: "Response of the Tropical Atlantic to Global Climate Variations".

9th International Conference on Paleoceanography, Shanghai, China, Sep 2007: "Interhemispheric gradients and tropical climate change"

The Fourth International Ocean-Atmosphere Conference (organized by the Chinese-American Oceanic and Atmospheric Association), Qingdao, China, Jul 4 2007: "The Day After Tomorrow: global impacts of Atlantic thermohaline slowdown"

Seminar, Ocean Sciences Dept, UCSC "The marine ITCZ in climate variability and change" Feb 21, 2007

18th Annual Kavli Frontiers of Science Symposium, National Academy of Sciences, Irvine CA: "An Inconvenient Climate: lessons on the dynamics of regional climate changes from the past and present". Nov 3, 2006.

Chabot Space and Science Center 'enrichment': "Stars, Spuds, and Serendipity: scientific collaboration of an indigenous climate forecasting method in the Peruvian Andes". June 28, 2006

Texas A&M Dept of Atmospheric Science Colloquium, 3/7/ 2006, "Tropical Atlantic variability as a model for marine ITCZ variability and change"

National Taiwan University Atmospheric sciences departmental seminar, 29 December 2005: "tropical Atlantic variability as a model for ITCZ variability and change"

Sea ice workshop, Bjerknes Centre for Climate Research, University of Bergen, 24-25 May 2005: "Influence of high latitude ice cover on the marine Intertropical Convergence Zone"

UCLA Atmospheric Sciences departmental seminar, 13 April 2005: "Tropical Atlantic variability as a model for understanding ITCZ variability and change"

Tohono O'odham community college, Sells, AZ, Geo101 class, 9 April 2005: "Indigenous climate forecasting in the Peruvian Andes"

Harvard, EPS special seminar, 6 May 2004: "Tropical Atlantic variability as a model for understanding ITCZ variability and change"

Tropical glaciation workshop, University of Washington, May 13-14 2004: "Extratropical influences on the tropical climate – lessons from the Tropical Atlantic ITCZ variability"

Comer Abrupt Climate change fellowship, 9 April 2004: "Mid- and high latitude influences on the tropical climate: lessons from tropical Atlantic variability"

Abrupt climate change meeting, Arden House, NY, June 8-11 2003: "Midlatitude influence on the tropical climate: lessons from the Tropical Atlantic"

Workshop on the Atlantic ITCZ, International Research Institute for Climate Prediction, Palisades, NY, Sep 18-20 2002: "Convection and TAV" (w/Adam Sobel)

American Geophysical Union Spring 2002 meeting, May 30, 2002: "The Intertropical Convergence Zone in Tropical Atlantic Variability".

Dept. of Geophysical Sciences, Univ. of Chicago, Nov 30 2001: "Tropical tropospheric temperature variations caused by ENSO and their influence on the remote tropical climate".

Academia Sinica, Institute of Earth Sciences, Dec 1998: "Surface wind over tropical oceans: diagnosis and simple modeling".

**Graduate
Advisees
Post-
doctoral
Advisees**

Mr. Andrew Friedman 2005-, Mr. Hyo-Seok Park 2005-, Mr. Yuwei Liu 2008-
Dr. Benjamin Lintner, 2003-2005 (now at UCLA), Dr. Yue Fang 2005-2009 (now at the First Institute of Oceanography, Qingdao), Dr. Hugo Lambert 2005-2007 (now at the UK Met Office), Dr. Miren Vizcaino, 2006-2009, Dr. Shih-Yu Lee 2008-present, Dr. Ching-Yee Chang 2008-present

Funded NOAA CLIVAR Pacific, “Mechanisms of tropical ENSO teleconnections”, 2003-06 (\$292,697)
 Comer Mentor Grant (for study of abrupt climate change) 2004-2007 (\$310,000) and extension 2007-2009 (\$220,000)
 NSF Climate Dynamics, “Collaborative Research: Tropical Marine Climate Feedback to Mid-and-High Latitude Climate Change”, 2005-2007 (\$304,492)
 DOE, Office of Biological and Environmental Research, “The Interhemispheric Pattern in 20th century and Future Abrupt Change in Regional Tropical Rainfall”, 2008-11 (\$347,134)

Publications

Edited Ocean Circulation: Mechanisms and Impacts. Andreas Schmittner, John C. H. Chiang, and Sidney Hemming, Eds. Geophysical Monograph Series, Volume 173, 304 pages, 2007, ISBN 13: 978-0-87590-438-2.

Submitted / Revised / In Press Vizcaino, M, S Rupper, and JCH Chiang: “Permanent El Niño” and the onset of Northern Hemisphere glaciations: mechanism and comparison with other hypotheses. In revision. *Paleoceanography*, Mar 2009.
 Park, H.-S., J. C. H. Chiang, B. R. Lintner, and G. J. Zhang, The delayed effect of major El Nino events on Indian monsoon rainfall. Revised for *Journal of Climate*, May 2009.
 Mölg, T., J.C.H. Chiang, A. Gohm, N.J. Cullen, and G. Kaser (2008): Temporal precipitation variability versus altitude on a tropical high mountain: Observations and mesoscale atmospheric modeling. In press for *Quarterly Journal of the Royal Meteorological Society*, 2009.

2009 Chiang, J. C. H. The Tropics in Paleoclimate. In *Annual Review of Earth and Planetary Sciences*, pp263-297, v37, 2009, eds. R. Jeanloz and K. H. Freeman, Annual Reviews, Palo Alto, CA
 Chiang, J. C. H., Y. Fang, and P. Chang: Pacific Climate Change and ENSO activity in the Mid-Holocene. *Journal of Climate*, v22, pp 923-939. DOI: 10.1175/2008JCLI2644.1 (Feb 2009)

2008 Chiang, J. C. H. and K. M. Cuffey: A simpler interpretation for high-resolution Greenland Ice Core Data. E-letter comment on Steffensen et al. (2008) to *Science*, 25 November 2008.
 Chiang, J.C.H., Y. Fang, and P. Chang: The interhemispheric thermal gradient and tropical Pacific climate. *Geophysical Research Letters*, 35, L14704, doi:10.1029/2008GL034166
 Fang, Y, J. C. H. Chiang, and P. Chang: Variation of mean sea surface temperature and modulation of El Niño-Southern Oscillation variance during the past 150 years. *Geophysical Research Letters*, 35, L14709, doi:10.1029/2008GL033761, 2008
 Lambert, F. H., A. Stine, N. Y. Krakauer, and J. C. H. Chiang: How much will precipitation increase with global warming? *EOS, Transactions of the American Geophysical Union*, 69, number 21, 20 May 2008
 Chiang, J. C. H., W. Cheng, and C. M. Bitz: Fast teleconnections to the tropical Atlantic sector from Atlantic thermohaline adjustment. *Geophysical Research Letters*, **35**, L07704, doi:10.1029/2008GL033292 (2008)

2007 Chang, P., L. Zhang, R. Saravanan, D.J. Vimont, J.C.H. Chiang, L. Ji, H. Seidel, and M.K. Tippett: Pacific Meridional Mode and El Niño-Southern Oscillation, **34**, L16608,

- doi:10.1029/2007GL030302, *Geophysical Research Letters*, Aug 2007.
- Cheng, W., C. M. Bitz, and J. C. H. Chiang: Adjustment of the global climate to an abrupt slowdown of the Atlantic meridional overturning circulation. “*Ocean Circulation: Mechanisms and Impacts*” AGU Monograph, Schmittner, Chiang, and Hemming eds., 2007.
- Lambert, F. H., and J. C. H. Chiang, Control of land-ocean temperature contrast by ocean heat uptake. *Geophysical Research Letters*, **34**, doi:10.1029/2007GL029755, 10 Jul 2007.
- Lintner, B. R., and J. C. H. Chiang: Adjustment of the remote tropical climate to El Nino conditions. *Journal of Climate*, **20**, p2544-2557 (2007).
- Bitz, C. M., J. C. H. Chiang, W. Cheng, and J. J. Barsugli: Rates of thermohaline recovery from freshwater pulse in Modern, Last Glacial Maximum, and Future Climates. *Geophysical Research Letters*, doi:10.1029/2006GL029237, 2007.
- 2005**
- Vimeux, F., R. Gallaire, S. Bony, G. Hoffman, and J.C.H. Chiang: What are the climate controls on dD in precipitation in the Zongo Valley (Bolivia)? Implications for Illimani ice core interpretation. *Earth & Planetary Science Letters*, **240**, 205-220 (Dec 2005)
- Lintner, B.R. and J.C.H. Chiang: “Reorganization of the tropical climate during El Niño – a weak temperature gradient approach”. *Journal of Climate*, **18**, 5312-5329 (Dec 2005)
- Chiang, J.C.H., and C.M. Bitz: “The influence of high latitude ice on the position of the marine Intertropical Convergence Zone”. *Climate Dynamics*, **25**, 477-496 (2005).
- Chiang, J.C.H. and B.R. Lintner: “Mechanisms of remote tropical surface warming during El Niño”. *Journal of Climate*, **18**, 4130-4149 (2005).
- 2004**
- Chiang, J. C. H. : Present-day climate variability in the tropical Atlantic: a model for paleoclimate changes? In *The Hadley circulation: past, present, and future*, HF Diaz and R Bradley (eds), Springer (2004)
- Chiang, J.C.H., and A. Koutavas: “Tropical Flip-Flop Connections” *Nature*, **432**, 864-865
- Chiang, J.C.H., and D.J. Vimont: Analogous Pacific and Atlantic meridional modes of tropical atmosphere-ocean variability. *Journal of Climate*. **17**, 4143-4158 (2004)
- 2003**
- Chiang, J.C.H., M. Biasutti, and D.S. Battisti: Sensitivity of the Atlantic ITCZ to Last Glacial Maximum boundary conditions. *Paleoceanography*, **18**, 10.1029/2003PA000916 (2003).
- Lin, I.-I., W.T. Liu, C.-C Wu, J.C.H. Chiang, and C.-H. Sui: Satellite Observations of Modulation of Surface Winds by typhoon-induced ocean cooling. *Geophys. Res. Lett.*, **30**(3), 10.1029/2002GL015674 (2003)
- 2002**
- Kushnir, Y., R. Seager, J. Miller, and J.C.H. Chiang: A simple coupled model of tropical Atlantic decadal climate variability. *Geophys. Res. Lett.*, 10.1029/2002GL015874 (2002).
- Chiang, J.C.H., and A. H. Sobel: Tropical tropospheric temperature variations caused by ENSO and their influence on the remote tropical climate. *J. Climate*, **15**, 2616-2631 (2002).
- *Chiang, J.C.H., Y. Kushnir, and A. Giannini: Deconstructing Atlantic ITCZ variability: influence of the local cross-equatorial SST gradient, and remote forcing from the eastern equatorial Pacific. *J. Geophys. Res.*, **107**(D1), 10.1029/2000JD000307 (2002)
- 2001**
- *Giannini, A., J. C. H. Chiang, M. A. Cane, Y. Kushnir, and R. Seager: The ENSO teleconnection to the tropical Atlantic Ocean: contributions of the remote and local SSTs to rainfall variability in the tropical Americas. *J. Climate*, **14**, 4350-4543 (2001).
- *Chiang, J.C.H., Y. Kushnir, and S.E. Zebiak: Interdecadal changes in eastern Pacific ITCZ variability and its influence on the Atlantic ITCZ. *Geophys. Res. Lett.*, **27**, 3687-

3690(2000).

*Chiang, J.C.H., S.E. Zebiak, and M.A. Cane: Relative roles of elevated heating and surface temperature gradients in driving anomalous surface winds over tropical oceans. *J. Atmos. Sci.*, **58**, 1371-1394 (2001).

2000

*Chiang, J.C.H., and S.E. Zebiak: Surface winds over tropical oceans: diagnosis of the momentum balance, and modeling the linear friction coefficient. *J. Climate*, **13**, 1733-1747 (2000).

*Orlove, B.S., J.C.H. Chiang, and M.A. Cane: Forecasting Andean rainfall and crop yield from El Niño influences on atmospheric clarity. *Nature*, **403**, 68-71 (2000).

Prior to 2000

Heiss, W.D., and J.C.H. Chiang: Random perturbation of systematic degeneracies and quantum chaos. *Phys. Rev. A*, **47, 2533-2538 (1993).

Botha, P.J., J.C.H. Chiang, J.D. Comins, and P.M. Mjwara: Behaviour of elastic constants, refractive index, and lattice parameter of cubic zirconia at high temperatures. *J. Applied Physics*, **73, 7268-7274 (1993).

* = papers from graduate research

** = undergraduate research

Popular interest

Orlove, B.S., J.C.H. Chiang, and M.A. Cane: Ethnoclimatology in the Andes. *American Scientist*, **90**, 428-435 (Sep-Oct 2002).

Thesis

Chiang, J.C.H.: The Intertropical Convergence Zone in Tropical Atlantic climate variability. Ph.D. thesis, Dept. of Earth and Environmental Sciences, Columbia University (2001).

Chiang, J. C. H.: Development of a large-scale dynamical model of the atmosphere and its application to the study of the response to surface heating at low latitudes. M.S. thesis, Dept. of Physics, Cornell University (1996).

Other

Chiang, J.C.H., and K. H. Cook, 1997: Response of the tropical atmosphere to surface heating in an idealized GCM. Proceedings of the American Meteorological Society 22nd conference on Hurricanes and Tropical Meteorology, Fort Collins, CO., 19-23 May, 1997.

Chiang, J.C.H., G.A. McKinley and K.M. Arzayus, 2003. Mentoring: Summary report of a Working Group from the DICCRS 1 Symposium.
<http://marcus.whitman.edu/~weiler/cs/DICCRS/>

Biasutti, M, A. Giannini, A.H. Sobel, I.M. Held, and J.C.H. Chiang, 2007: Sahel Climate Change: Workshop on Sahel Climate Change, Columbia University, New York, 19-21 March 2007. *EOS*, **88**, p295, 17 July 2007.